Observation and Interpretation of a Near Infrared Spot Feature on Uranus

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Images of Uranus acquired 30 May 1993 utilizing J, H, and short K band filters with a NICMOS array on a single 1.8m MMT telescope showed a small dark spot near 35° South latitude. The observations were conducted using the University of Arizona adaptive optics (ACME) system which, in the configuration used for a single mirror, stabilized image motion during the exposure. Additional features in the images include significant limb brightening in the polar region and what appears to be an irregular dark band near the pole. Analysis of the various aerosol structures observed in these images will be presented, based on perturbations of the Baines and Bergstralh (1986 Icarus 65, 406-411) global models. In particular, analysis of center-to-limb profiles of K band imagery will deduce the stratospheric aerosol content, and place constraints on its spatial variability.